INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Joseph E. Kernan
Governor

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100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.in.gov/idem

December 15, 2003

TO: Interested Parties / Applicant

RE: Fort Wayne Anodizing / 003-18096-00202

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision – Approval

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days from the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

(1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
(2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
(3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

(1) the name and address of the person making the request;
(2) the interest of the person making the request;
(3) identification of any persons represented by the person making the request;
(4) the reasons, with particularity, for the request;
(5) the issues, with particularity, proposed for considerations at any hearing; and
(6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNPER-AM.dot 9/16/03

December 15, 2003

Mr. Thomas Poiry
Fort Wayne Anodizing
2535 Wayne Trace
Fort Wayne, IN 46803

Dear Mr. Poiry:

Re: Exempt Construction and Operation Status,
003-18096-00202

The application from Fort Wayne Anodizing, received on October 14, 2003, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following emission units, to be located at 2535 Wayne Trace, Fort Wayne, Indiana, are classified as exempt from air pollution permit requirements:

(a) One (1) natural gas-fired boiler, identified as E-1, with a maximum heat input capacity of 3.86 mmBtu/hr, exhausting to Stack # E-1.

(b) One (1) natural gas-fired boiler, identified as E-2, with a maximum heat input capacity of 2.65 mmBtu/hr, exhausting to Stack # E-2.

(c) Six (6) natural gas-fired space heaters, identified as E-7, E-20, E-21(a) and (b) and E-22 (a) and (b), each with a maximum heat input capacity of 0.125 mmBtu/hr, exhausting to Stacks # E-7, E-20, E-21, and E-22.

(d) One (1) natural gas-fired parts dryer, identified as E-11, with a maximum heat input capacity of 0.90 mmBtu/hr, exhausting to Stack # E-11.

(e) Three (3) HVAC units using natural gas, identified as E-23 (0.9 mmBtu/hr), Direct-Fired (3.8 mmBtu/hr), and Direct Fired 1 (4.2 mmBtu/hr), exhausting to Stack # E23.

(f) Five (5) natural gas-fired tube heaters, identified as E-28, E-29, E-30, E-31, and E-32, each with a maximum heat input capacity of 0.75 mmBtu/hr, exhausting to Stacks # E-28, E-29, E-30, E-31, and E-32.

(g) One (1) hardcoat line, identified as E-24, for processing aluminum including cleaning, rinsing, anodizing, warm rinsing, dying, nickel sealing, and drying, with a maximum processing capacity of 150 lb/hr.

(h) One (1) color line, identified as E-5, E-12, E-13, and E-14, for processing aluminum, including alkaline cleaning, cold water rinsing, caustic cleaning, de-smutting, and treatment with nickel acetate and sodium dichromate, with a maximum processing capacity of 375 lb/hr, exhausting to Stacks # E-5, E-6, E-10, E-12, E-13, and E-14.

(i) Two (2) lines for etching and cleaning, including anodizing of aluminum with low foaming seal, rinsing, chromate conversion, hot water sealing, identified as E-8 and E-9, with a maximum processing capacity of 375 lb/hr, exhausting to Stacks # E-8 and E-9.

(j) Chromate conversion, identified as E-4, including alkaline degreasing, acid cleaning and cold water rinsing, with a maximum processing capacity of 350 lb/hr, equipped with a scrubber with a 95% efficiency, exhausting to Stack # E-4.

(k) One (1) resin impregnation line, processing a maximum of 3,000 lb/hr of aluminum casting.

The following conditions shall be applicable:

(1) Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

(2) Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), the particulate matter emissions from each of the two (2) boilers E-1 and E-2 shall be limited to 0.6 lb/mmBtu.

(3) Any change or modification which may increase the emissions of a single hazardous air pollutant (HAP) or volatile organic compounds to 10 tons per year or greater, or that of a combination of HAPs to 25 tons per year or greater, shall require prior approval of the Office of Air Quality (OAQ).

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original Signed by Paul Dubenetzky
Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

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cc: File - Allen County
Allen County Health Department
Air Compliance – Jennifer Dorn
Permit Tracking
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name:	**Fort Wayne Anodizing**
Source Location:	**2535 Wayne Trace, Fort Wayne, IN 46803**
County:	**Allen**
SIC Code:	**3471**
Operation Permit No.:	**003-18096-00202**
Permit Reviewer:	**Madhurima D. Moulik**

The Office of Air Quality (OAQ) has reviewed an application from Fort Wayne Anodizing relating to the construction and operation of an aluminum anodizing and impregnation facility.

Emission Units and Pollution Control Equipment

The source consists of the following emission units and pollution control devices:

(a) One (1) natural gas-fired boiler, identified as E-1, with a maximum heat input capacity of 3.86 mmBtu/hr, exhausting to Stack # E-1.
(b) One (1) natural gas-fired boiler, identified as E-2, with a maximum heat input capacity of 2.65 mmBtu/hr, exhausting to Stack # E-2.
(c) Six (6) natural gas-fired space heaters, identified as E-7, E-20, E-21(a) and (b) and E-22 (a) and (b), each with a maximum heat input capacity of 0.125 mmBtu/hr, exhausting to Stacks # E-7, E-20, E-21, and E-22.
(d) One (1) natural gas-fired parts dryer, identified as E-11, with a maximum heat input capacity of 0.90 mmBtu/hr, exhausting to Stack # E-11.
(e) Three (3) HVAC units using natural gas, identified as E-23 (0.9 mmBtu/hr), Direct-Fired (3.8 mmBtu/hr), and Direct Fired 1 (4.2 mmBtu/hr), exhausting to Stack # E23.
(f) Five (5) natural gas-fired tube heaters, identified as E-28, E-29, E-30, E-31, and E-32, each with a maximum heat input capacity of 0.75 mmBtu/hr, exhausting to Stacks # E-28, E-29, E-30, E-31, and E-32.
(g) One (1) hardcoat line, identified as E-24, for processing aluminum including cleaning, rinsing, anodizing, warm rinsing, dying, nickel sealing, and drying, with a maximum processing capacity of 150 lb/hr.
(h) One (1) color line, identified as E-5, E-12, E-13, and E-14, for processing aluminum, including alkaline cleaning, cold water rinsing, caustic cleaning, de-smutting, and treatment with nickel acetate and sodium dichromate, with a maximum processing capacity of 375 lb/hr, exhausting to Stacks # E-5, E-6, E-10, E-12, E-13, and E-14.
(i) Two (2) lines for etching and cleaning, including anodizing of aluminum with low foaming seal, rinsing, chromate conversion, hot water sealing, identified as E-8 and E-9, with a maximum processing capacity of 375 lb/hr, exhausting to Stacks # E-8 and E-9.
(j) Chromate conversion, identified as E-4, including alkaline degreasing, acid cleaning and cold water rinsing, with a maximum processing capacity of 350 lb/hr, equipped with a scrubber with a 95% efficiency, exhausting to Stack # E-4.
(k) One (1) resin impregnation line, processing a maximum of 3,000 lb/hr of aluminum casting.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

(a) CP – Registration No.: 003-3453-00202, issued on February 25, 1994.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (ft)	Diameter (ft)	Flow Rate (acfm)	Temperature (°F)
E-1	Boiler # 1	18	1.0	1,487	425
E-2	Boiler # 2	18	0.83	-	Ambient
E-4	Chromate Conversion	18	1.17	3,000	180
E-5	Color Line	18	1.17	-	Ambient
E-6	Color Line	18	2.00	8,000	Ambient
E-7	Space Heater	18	0.50	50	425
E-8	Etch and Clean	18	2.00	2,000	Ambient
E-9	Etch and Clean	18	2.00	8,000	Ambient
E-10	Color Line	18	2.00	8,000	Ambient
E-11	Parts Dryer	18	1.17	348	425
E-12	Color Line	18	2.00	8,000	Ambient
E-13	Color Line	18	1.17	3,000	Ambient
E-14	Color Line	18	2.00	8,000	Ambient
E-20	Space Heater	18	0.50	50	425
E-21	Space Heaters	22	0.83	100	425
E-22	Space Heaters	22	0.83	100	425
E-23	HVAC Unit	22	0.50	346	425
E-24	Hardcoat Line	29	4.00	46,641	Ambient
E-28	Tube Heater 28	-	0.33	-	120
E-29	Tube Heater 29	-	0.33	-	120
E-30	Tube Heater 30	-	0.33	-	120
E-31	Tube Heater 31	-	0.33	-	120
E-32	Tube Heater 32	-	0.33	-	120

Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on October 14, 2003. Additional information was received on December 1, 2003.

Emission Calculations

See Appendix A of this document for detailed emission calculations for combustion sources.

Emissions from color line – tanks 1 and 2 (provided by source):

Tank temperature = 180 deg F
Tank concentration = 2.0 oz/gal
Tank surface area = 72 sq ft
Percent Ni = 20.72 %

Rate of evaporation = 0.085 gal/sq ft- hr
Emissions of Ni-compounds

= ((0.085 gal/sq ft-hr x 72 sq ft x 2.0 oz/gal)x 0.2072)/ 16 oz/lb

= 0.1581 lb of hr of Ni (HAP) = **0.69 tons per year**

After scrubber (95 % efficiency) = 0.01 lb/hr of Ni = **0.04 tons per year**

Emissions from aluminum etch/clean line (provided by source):

Tank temperature = 150 deg F

Tank surface area = 30 square ft
Tank concentration = 2.0 oz/gallon
Percent chrome = 52%
Rate of evaporation = 0.0163 gal/sq ft/hr

Emissions = ((0.0163 gal/sq ft-hr) x 30 sq ft x 2.0 oz/gal x 0.52)/ 16 oz/lb
= 0.032 lb/hr of chrome = **0.14 tons per year**

Emissions from chromate conversion line (provided by source):

Tank temperature = 70 deg F
Tank concentration = 2.0 oz/gal
Tank surface area = 12.3 sq ft
Percent chrome = 52%
Rate of evaporation = 0.016 gal/sq ft-hr

Emissions of chrome = ((0.0163 gal/sq ft-hr x 12.3 sq ft) x 2.0 oz/gal x 0.52)/16 oz/lb
= 0.013 lb/hr = **0.06 tons/yr**

Emissions from hardcoat line (provided by source):

Tank temperature = 180 deg F
Tank concentration = 2.0 oz/gal
Tank surface area = 60 sq ft
Percent Ni = 20.72%
Rate of evaporation = 0.085 gal/sq ft-hr

Emissions of Ni = ((0.085 gal/sq ft-hr x 60 sq ft)x 2.0 oz/gal)x 0.2072)/16 oz/lb
= 0.132 lb/hr = **0.58 tons per year**

Potential to Emit of the Source Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Potential to Emit (tons/yr)
PM	0.6
PM-10	0.7
SO_2	Negligible
VOC	0.5
CO	7.7
NO_x	9.2

HAPs	Potential to Emit (tons/yr)
Single HAP	<10
Total	<25

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of pollutants are less than the levels listed in 326 IAC 2-1.1-3(d)(1). Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3. An exemption will be issued.

(b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3. An exemption will be issued.

County Attainment Status

The source is located in Allen County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Allen County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.

(b) Allen County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) each criteria pollutant is less than 100 tons per year,
(b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
(c) any combination of HAPs is less than 25 tons per year.

This status is based on all the air approvals issued to the source. This status has been verified by the OAQ inspector assigned to the source.

Federal Rule Applicability

(a) The two (2) boilers at this source are not subject to the requirements of the New Source Performance Standard, 326 IAC 12 (40 CFR 60, Subpart Dc), since the heat input capacity of each boiler is less than the 10 mmBtu/hr applicability threshold.

(b) The two (2) chromium anodizing tanks at this facility are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), Subpart N – Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks, because the tanks perform etching/cleaning and chrome conversion coating, respectively, and are therefore exempt according to 40 CFR 63.340(c).

(c) The degreasing facilities at this source are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), Subpart T – Standards for Halogenated Solvent Cleaning, because these units do not use any halogenated HAP solvents.

State Rule Applicability – Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Allen County and the potential to emit of all criteria pollutants are less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of this aluminum anodizing and impregnation facility will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in the permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability – Individual Facilities

326 IAC 6-3-2 (Process Operations)

The two (2) boilers at this source are exempt from 326 IAC 6-3-2, as this rule does not apply to sources of indirect heating.

326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)

The two (2) boilers received construction permit after September 21, 1983, and are therefore subject to the requirements of 326 IAC 6-2-4.

Particulate emissions from indirect heating facilities constructed after September 21, 1983, shall be limited by the following equation:

$$Pt = 1.09/Q^{0.26}$$

Where:

Pt = Pounds of particulate matter emitted per million Btu (lb/mmBtu) heat input.
Q = Total source maximum operating capacity rating in million Btu per hour (mmBtu/hr) heat input.

Q = 6.51 mmBtu/hr

Pt = 0.61 lb/mmBtu.

Pursuant to 326 IAC 6-2-4(a), for Q<10 mmBtu/hr, Pt shall not exceed 0.6.

Therefore, PM emissions from each boiler is limited to 0.6 lb/mmBtu.

For the 3.86 mmBtu/hr boiler, PM is limited to 2.32 lb/hr = 10.14 tons per year.
For the 2.65 mmBtu/hr boiler, PM is limited to 1.59 lb/hr = 6.96 tons per year.

Both of the boilers have PM potential emissions below these limits. Therefore, the source is in compliance with 326 IAC 6-2-4.

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements)

The potential VOC emissions from all the emission units at this source are less than 25 tons per year. Therefore, 326 IAC 8-1-6 does not apply.

326 IAC 8-3-2 and 326 IAC 8-3-5 (Cold Cleaner Degreasers)

The degreasing units at this source do not use organic solvent degreasers. Therefore, the source is exempt from the requirements of 326 IAC 8-3-2 and 326 IAC 8-3-5.

No other Article 8 rules apply.

Conclusion

The construction and operation of this aluminum anodizing and impregnation facility shall be subject to the conditions of the Exemption No.: 003-18096-00202.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: **Fort Wayne Anodizing**
Address City IN Zip: **2535 Wayne Trace, Fort Wayne, IN 46803**
Permit Number: **003-18096**
Plt ID: **003-00202**
Reviewer: **Madhurima D. Moulik**
Date: **24-Oct-03**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
6.5	57.0

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.1	0.2	0.0	2.9	0.2	2.4

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Company Name: Fort Wayne Anodizing
Address City IN Zip: 2535 Wayne Trace, Fort Wayne, IN 46803
Permit Number: 003-18096
Plt ID: 003-00202
Reviewer: Madhurima D. Moulik
Date: 24-Oct-03

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	5.988E-05	3.422E-05	2.139E-03	5.132E-02	9.695E-05

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	1.426E-05	3.137E-05	3.992E-05	1.084E-05	5.988E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Space Heaters

Company Name: **Fort Wayne Anodizing**
Address City IN Zip: **2535 Wayne Trace, Fort Wayne, IN 46803**
Permit Number: **003-18096**
Plt ID: **003-00202**
Reviewer: **Madhurima D. Moulik**
Date: **24-Oct-03**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
14.3	125.3

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.5	0.5	0.0	6.3	0.3	5.3

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Space Heaters
HAPs Emissions

Company Name: Fort Wayne Anodizing
Address City IN Zip: 2535 Wayne Trace, Fort Wayne, IN 46803
Permit Number: 003-18096
Plt ID: 003-00202
Reviewer: Madhurima D. Moulik
Date: 24-Oct-03

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.315E-04	7.516E-05	4.698E-03	1.127E-01	2.130E-04

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	3.132E-05	6.890E-05	8.769E-05	2.380E-05	1.315E-04

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.